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Research Report 1487

Review of Reserve Component Training: Problems and Solutions

Mark E. Eisley and Myron P. Viner
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ARI Armor Research and Development Activity, Boise Element
Training Research Laboratory

U. S. Army

Research Institute for the Behavioral and Social Sciences

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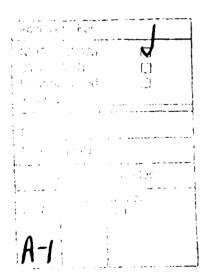Commanding

EDGAR M. JOHNSON
Technical Director

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Review of Reserve Component Training: Problems and Solutions

Mark E. Eisley and Myron P. Viner
Allen Corporation of America

ARI Armor Research and Development Activity, *Boise Element*
Ruth H. Phelps, Chief

Training Research Laboratory
Jack H. Hiller, Director

Much has been written about the training needs of the Army National Guard and Reserve, i.e., the Reserve Component (RC). This report reviews the literature to identify these needs, their causes, and suggested solutions.

This research was conducted by the Training Technology Field Activity-Gowen Field (TTFA-GF) whose mission is to improve the effectiveness and efficiency of RC training through the testing and application of the latest in training technology. The research task supporting this mission is entitled "Application of Technology to Meet RC Training Needs" and is organized under the "Maintain the Force" program area. The National Guard Bureau (NGB) and the Idaho Army National Guard (IDARNG) sponsored this project under a Memorandum of Understanding, signed 12 June 1985, establishing the TTFA-GF. Project results have been presented to the Chief, Training Support Branch, NGB, and the Assistant Adjutant General of Idaho.

EDGAR M. JOHNSON
Technical Director

REVIEW OF RESERVE COMPONENT TRAINING: PROBLEMS AND SOLUTIONS

EXECUTIVE SUMMARY

Requirement:

Because of the unique training needs of the Army Reserve
Component (RC), the Training Technology Field Activity (TTFA)-
Gowen Field was established in 1985 at Boise, Idaho. Its primary
mission is to conduct research and development to improve the
effectiveness of RC training. To accomplish this mission, the
first step is to review the results of past reports and surveys
to establish a ground for future focus.

Procedure:

This review includes documents published in the last 10
years and selected using computer searches and bibliographies
obtained from the U.S. Army Training Board, Defense Technical
Information Center (DTIC), National Technical Information Service
(NTIS), Educational Resources Information Center (ERIC), Defense
Logistics Studies Information Exchange (DLSIE), Psychological
Information, Rand Corporation, and others.

Findings:

The RC faces training challenges quite distinct from those
of the Active component (AC). The most prominent challenges are
severely limited time for training, geographical dispersion of
units, and the reassignment inflexibility of parttime soldiers.
These difficulties interact to influence most training problems
encountered in the RC training environment.

Five categories of RC training problems were identified from
the literature: (a) lack of soldier availability, (b) lack of
prerequisite aptitudes and skills, (c) lack of learning motiva-
tion, (d) lack of time to conduct training, and (e) lack of
training resources available at local unit levels.

Utilization of Findings:

    The findings of this report should serve as a springboard
for directing future research and development efforts to improve
RC training in areas of greatest payoff. One direct application
of this report will be the conduct of a National Survey of Re-
serve Component Inactive Duty Training, which will solicit
soldier opinions on the feasibility of many of the suggested
training solutions found in the literature just reviewed. It
will also further investigate, from a field soldier's point of
view, the nature and extent of many of the training needs
identified.

REVIEW OF RESERVE COMPONENT TRAINING: PROBLEMS AND SOLUTIONS

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REVIEW OF RESERVE COMPONENT TRAINING: PROBLEMS AND SOLUTIONS

INTRODUCTION

<u>The Need for Readiness</u>

An awareness of the importance of the mission of the
Reserve Component (RC) to the defense posture of the United
States continues to grow in the minds of Congress and military
leadership.

> Resource constraints placed on [the] Active Component [AC]
> force structure will continue to necessitate a heavy
> reliance on the Reserve Components for Round-out, combat
> support, and combat service support units capable of rapid
> deployment and effective performance whenever required for
> any contingency. Reserve Component readiness, and the
> resources dedicated to support that readiness, then become
> important signals of national intent to both allies and
> Warsaw Pact nations. (Skipper, 1984, pp. 173-174)

The VISTA 1999 Task Force (1982) asserted that the
National Guard and the Reserve are the only viable option for
augmenting the active forces in a national emergency. They
urge that the capabilities of the RC be enhanced to help
decrease the likelihood of nuclear or conventional war.

> Whether deployed to forward locations or maintained at
> high states of readiness in the United States for rapid
> deployment overseas, conventional forces are an indication
> of American resolve. In many cases, the presence of such
> strength, coupled with a high level of national support
> for its implementation, is sufficient to insure that it
> will not have to be used. (p. i)

Bringing the RC to maximal readiness for wartime missions
is now regarded as being essential, and training is a key to
that readiness. Even so, a 1980 report prepared for the
Office, Assistant Secretary of Defense (Program Analysis &
Evaluation) indicates that "If the training of RC units
continues to follow current patterns, then, on the average, <u>at
least 8 weeks of postmobilization training</u> [for early-
deployment, company-sized units] will be required based on the
experiences of the last three mobilizations of RC units"
(Heymont & Muckerman, 1980, pp. 1-4).

The need for improved readiness is perhaps even keener in
the Army than in the other services. The <u>Annual Report of the
Reserve Forces Policy Board, Fiscal Year 1986</u> (Office of the

Secretary of Defense, 1987) gives evidence of this need. The report shows that only 71% of the Army National Guard (ARNG) units qualify at least at a C-3 (Marginally Combat Ready) level of readiness, and only 45% of the United States Army Reserve (USAR) qualify at or above the C-3 level. These percentages are lower than those reported for the Naval Reserve, the Air National Guard, or the Air Force Reserve. The percentage of units ready at a C-3 level or higher in the Marine Corps Reserve was better than that in the USAR, but lower than that of the ARNG. The two most critical limiting factors given for the lack of readiness in the Army RC were "Equipment On-Hand" and "Individual Skill Qualification." The latter is a _training_ issue which is sorely felt in the Army RC.

Another example of the Army RC's need being even more pronounced than other service branches is found in relation to reserve logistics personnel (such as machinists, mechanics, electricians, supply control specialists, tank repairers, watercraft operators, etc.). A Department of Defense (DoD) study (Srull, Simms, & Pickett, 1985) showed that:

> Current Reserve Component training strategy and practices may be adequate for the Navy and Air Force . . . [and] present Marine Corps Reserve training practices, although similar to the Army's, may be adequate due to the Marine Corps' relatively lower dependence on selected reserve logistics units. . . . [But] _present training practices are seriously inadequate for the Army Guard and Reserve_ [emphasis added]. (p. iv)

Distinct Training Challenges in the RC

Although the training goals of the RC are similar to those of the Active Component (AC), the challenges and constraints for delivering that training are quite distinct. Srull et al. (1985) reported that:

> The present approach to technical training throughout DoD is designated primarily for the Active Component and is not well suited in many cases to the needs of the Reserve Components. Many deficiencies flow from application of active force training concepts to reservists who train in an entirely different environment. (p. iv)

In a five-year investigation for the Office of the Assistant Secretary of Defense (Reserve Affairs), Simms and Greenberg (1986) found that "all Services are training Reserve Component personnel with a training system built to train Active Component personnel. . . . The Active Force training model does not work very well in the Reserve Component environment" (p. 67).

A 1987 report of the US Army Training Board (ATB) has confirmed the reality of large differences between AC and RC training environments:

> Optimizing the effectiveness of training is the legitimate goal of every unit in the Army, but nowhere is the mandate to do so, or the consequences of failing, more evident than in our reserve forces. They operate and train in a unique environment foreign to, and not well understood by, the active force. In this environment . . . the margin for error is narrowed to its lowest point. The capacity of units to recover quickly from even minor false starts, disconnects, and interruptions is severely limited by the absence of most of the inherent training flexibility available to Active Army units. (pp. 3-4)

According to the ATB report, understanding the differences between the AC and the RC is the key to optimizing RC training. However, according to both RC and AC trainers in a sample of 607 interviewees, these differences "are not well understood by the active force" (p. 7). This sentiment was expressed across all levels, from senior commanders to company and detachment commanders.

Establishment of a Reserve Component
Training Technology Field Activity

Because of the unique training needs of the Army RC, a Training Technology Field Activity (TTFA) was established in 1985 to address those needs through research and development. This TTFA is officed at Gowen Field and Boise State University, both in Boise, Idaho. Gowen field is a major RC training facility with an environment that allows training on most weapons systems, especially those used in armor and artillery units. The TTFA-Gowen Field brings together resources and experts from the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI), Training and Doctrine Command's (TRADOC) Training Development and Analysis Directorate (TDAD), the Idaho Army National Guard (IDARNG), the USAR in Idaho, and Boise State University. Its primary mission is to conduct research and development to improve the effectiveness of RC training.

In order to accomplish this mission, the first step is to review the results of past reports and surveys to establish a ground for future focus. The present document is the product of that effort. The training needs of the ARNG and the USAR will be described in detail herein. This review synthesizes a literature perspective on the most urgent and viable avenues of attention for the TTFA-Gowen Field.

A second step toward accomplishing the TTFA's mission is the conducting of two surveys which gain the perspective of RC soldiers in the field on training-related issues. The first of these is a pilot survey using Idaho as a test bed. All RC soldiers within the state boundaries (both in the ARNG and the USAR) are included in the sample.

The second survey will benefit from the experience and findings of the Idaho pilot and will expand to a nationwide sample of ARNG and USAR soldiers. The Nationwide Survey of Soldier Perceptions of Reserve Component Training will include three subsamples: enlisted soldiers (E-1 to E-4), noncommissioned officers (NCO) (E-5 to E-9), and officers (including warrant officers). The present review is intended to guide the creation of instruments and analysis plans for the nationwide survey.

Purpose and Scope of This Review

The purpose of this review is to identify general problems and solutions pertaining to RC training and related areas. This review will make it possible to identify directions for research and development in RC training. It focuses on Inactive Duty Training (IDT) among the Selected Reserve, i.e., the ARNG and USAR Troop Program Units (TPU), but not the Individual Ready Reserve (IRR). Since the focus is on IDT, detailed emphasis is not placed on institutional training nor on Annual Training (AT).

This review includes only those documents which are recent enough to reflect the present status of the RC--roughly the last ten years. They were selected using computer searches and bibliographies obtained from the U.S. Army Training Board, Defense Technical Information Center (DTIC), National Technical Information Service (NTIS), Educational Resources Information Center (ERIC), Defense Logistics Studies Information Exchange (DLSIE), Psychological Information, Rand Corporation, and others. Only the most cogent documents are referenced herein. An extended bibliography of additional related documents is also provided at the end of this review.

PROBLEMS AND SOLUTIONS

Overview of Training Problems in the RC

The Office of the Assistant Secretary of Defense (Reserve Affairs) (Rice, Orlansky, & Metzko, 1986) summarized the overall challenges of sustainment and unit training in the Army RC with the following statistics:

More than 600,000 soldiers with over 400 MOSs (military
occupational specialties) [are found] in approximately
6,900 units at nearly 4,000 stations. Specifically, the
Army National Guard (ARNG) has 3,457 units and 2,858
armories; the average armory accommodates 148 enlisted
personnel. The Army Reserve (USAR) has 3,438 units and
1,098 reserve centers; the average population per center
is 202 enlisted personnel. In both the ARNG and the USAR,
many armory/center populations reflect a variety of MOSs,
few billets of any single MOS, and few experienced
instructor NCOs (non-commissioned officers). And in both
the ARNG and the USAR during 11 months of the year, the RC
soldier availability for training (2 days/month) is 10
percent of the (20 days/month) availability of his Active
Army counterpart; it is 50 percent for the month in which
the Reservist/Guardsman is on 2-week active duty. (p. 362)

The challenges of the RC training environment are listed
in the next five paragraphs. Each challenge will be more fully
described later, as will any associated solutions proposed in
the literature.

Compared with the time available for training in the AC,
the time available in the RC is severely limited. To
complicate the difficulty, the little time available is
fragmented with nearly a month separating most training
sessions. Soldiers and units in the RC are geographically
dispersed from one another and often distant from centers of
support and training facilities.

Each year personnel turbulence makes it necessary to
repeat training for a significant part of the force in new
positions, units, or Military Occupational Specialties (MOS).
While the freedom and flexibility possessed by individual
soldiers to change their geographical location at will
contributes to one problem in the RC, i.e. turbulence, another
far-reaching problem exists because the Army does not have
reciprocal freedom and flexibility to place or relocate RC
soldiers at will. RC soldiers' primary tie to their civilian
jobs creates a "reassignment inflexibility" which is in direct
contrast to the situation in the AC.

Initial training for individual soldiers is inadequate to
the RC's needs and follow-up training in the unit is much more
difficult to obtain/conduct than it is in the AC. The
availability of institutional training from AC and RC schools
is restricted because of geographical distance, the full-time
civilian employment of most RC soldiers, and the abbreviated
course offerings available at the somewhat more accessible RC
schools.

The RC suffers greater shortages of the right equipment than the AC does. Ranges and training facilities are less available. The relevance and realism of training is often cited as a problem in the RC. Training management difficulties and surprise administrative demands for nontraining activities cause precious training time to be wasted.

Training guidance is often inconsistent and conflicting because it comes from multiple sources through a confusing chain of command. Trainer preparation is inadequate. Training requirements are excessive and training support documents are redundant and voluminous. In addition to all this, it is difficult for trainers and managers to meaningfully monitor needs and/or progress due to inadequate measures of readiness.

A Structure for Categorizing Problems, Their Causes, and Their Solutions

The literature has shown the preceding to be a fairly exhaustive list of the general problems associated with RC training in the Army. These problems are not obscure. As will be seen in later discussion of the literature, they are experienced and reported throughout the system. It will be the task of this review to organize the details regarding these problems and possible solutions into some sort of meaningful structure. A convenient conceptual framework for so doing is modeled by Gagne's (1977) "conditions of learning" approach. This approach identifies the conditions and processes which facilitate the learning of various types of skills.

When the "conditions of learning" approach is adapted to the RC training environment, certain training needs are identified. Training problems are then defined as failures to meet those needs; causes of the training problems are defined as the circumstances which have obstructed the meeting of the needs; solutions are the means suggested in the literature for reducing the obstacles or for increasing the availability of needed conditions.

What training conditions are required to effectively help soldiers develop and maintain a state of mission readiness? In general they are:

Need 1: Soldiers need to be available for training.

Need 2: The pretraining aptitudes and skills of soldiers need to be at prerequisite levels.

Need 3: Soldiers need to be motivated to learn.

Need 4: Soldiers and units need to spend sufficient <u>time</u> in training activities.

Need 5: The right training <u>resources</u> need to be on hand for any given training session. This includes the right equipment, hardware, software, training devices, combination of soldiers, training facilities (ranges, buildings, etc.), and training environment (e.g., space, terrain, real work opportunities).

The conceptual structure represented in the above list of needs evolved naturally by inference from the training difficulties identified in the literature. The following sections will discuss the needs, problems, causes, and solutions found in the RC literature. The relationships of solutions to the various problems are presented in the discussion and also in brief form in Table 1.

Problem: Lack of Soldier Availability

Need 1: Soldiers need to be available for training.

Cause: Strength Shortages

It is obvious that soldiers cannot be trained unless they are available at the times and locations at which training is conducted. The Army's RC has been able to recruit growing numbers of soldiers each year since 1978 (Brinkerhoff & Grissmer, 1984). Over the past six years the ARNG has experienced a fifteen percent growth and the USAR a thirty-eight percent growth (Office of the Secretary of Defense, 1986). <u>System-wide</u> strength levels are not reported in the literature to be a problem in and of themselves. In fact, in FY 1986 the USAR attained an end strength which is ninety-six percent of its total wartime requirements of 322,300 soldiers and the ARNG reached ninety-four percent of its wartime requirements of 470,200 soldiers (Office of the Secretary of Defense, 1986). However, some RC units experience chronic strength shortages (Heymont & Muckerman, 1980).

There may be a danger in taking a simplistic and complacent view of strength when a broader perspective might show that if quality of accessions were brought to needed levels, maintaining strength could be a problem. Research suggests that "the kind of individual recruited should be different [from the kind the standards now allow] and that selection procedures should be more stringent in excluding those individuals who are 'high risks.'" (Doering & Grissmer, 1984)

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Table 1

The Relationships Between Reserve Component Problems and Solutions Proposed in the Literature

					Problem							
Solution	A	B	C	D	E	F	G	H	I	J	K	L
Conduct and apply research on enlistment motivation.	R	L	-	L	-	-	-	-	-	-	-	-
Recombine existing weak units to make stronger ones.	R	U	-	U	-	-	-	-	-	-	-	-
Inform candidate enrollees of all the time beyond 38 days/yr. they will be required to give.	U	R	-	-	-	-	-	-	-	-	-	-
Improve enlistment standards.	U	R	-	-	-	-	-	-	-	-	-	-
Increase soldier satisfaction--especially with military job, time demands, and esprit de corps.	L	R	-	L	-	-	-	L	-	-	-	-
Reduce extra training time for units which have sufficient postmobilization time to upgrade proficiency.	-	R	-	R	-	-	-	L	L	-	-	-
Reduce training time beyond 38 days for soldiers/units whose function or level of readiness do not require it.	L	R	-	R	-	-	-	L	L	-	-	-
Reduce "idle" or wasted time.	-	R	-	R	L	-	-	R	L	-	-	-
Make training more rigorous and mission-oriented.	-	R	-	R	-	-	-	R	-	-	-	-
Use advanced training technologies.	L	R	-	R	R	R	-	-	-	-	-	R
Conduct/apply research on retention/attrition.	-	R	-	-	-	-	-	-	-	-	-	-

(table continues)

8

Solution	A	B	C	D	E	F	G	H	I	J	K	L
Recruit high school graduates and individuals with higher aptitude scores and prior work experience.	U	R	–	–	–	–	–	–	–	–	–	–
Seek people with a strong taste for the reserve social environment and the reserve job itself.	U	R	–	–	–	–	–	–	–	–	–	–
Increase compensation.	–	R	–	L	–	–	–	–	U	–	–	–
Stress individual skill qualification.	–	–	R	–	R	L	–	L	–	L	–	–
Avoid attempting to train at too high an echelon for the experience level of the personnel.	–	–	R	–	–	L	–	L	L	L	–	–
Provide "dedicated training time" for NCOs to conduct individual and small unit training of subordinates.	–	L	R	–	L	L	–	L	–	–	–	–
Use flexible scheduling.	–	–	R	–	L	–	–	–	L	–	L	L
Use every third AT for individual skill training at TRADOC schools or with Active Army units.	–	–	R	–	L	–	–	–	–	–	–	–
Avoid using troops as training aids for the practice of officers in higher level units.	–	–	R	–	–	L	–	L	–	–	–	–
Conduct/apply research on turbulence.	–	–	–	R	–	–	–	–	–	–	–	–
Change policies which force trained soldiers out.	–	R	–	–	–	–	–	–	–	–	–	–
Create a separate program of initial training for the RC.	–	–	–	–	R	–	–	–	–	–	–	–

(table continues)

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Solution	A	B	C	D	E	F	G	H	I	J	K	L
Provide flexible MOS reclassification strategies.	-	-	L	-	R	-	L	-	-	-	-	L
Improve processes and standards for SQT.	-	-	-	-	L	R	-	L	-	-	-	R
Additional training on MILES operation.	-	-	-	-	-	R	-	-	-	-	-	-
Make more practice battle fields available.	-	-	-	-	-	R	-	-	-	-	-	-
Maximize the use of overseas deployment for training.	-	-	-	-	-	R	-	L	-	-	-	-
Expand use of the KPUP concept.	-	-	-	-	-	R	-	L,	R	-	-	-
Promote year-around interface between ARNG and USAR units.	L	-	-	-	-	R	-	R	-	-	-	-
Maximize the use of field (vs. classroom) training environments.	-	-	-	-	-	R	-	R	-	-	-	-
Explore feedback mechanisms which work at the interface between individual soldiers and their supervisors.	-	-	-	-	-	-	R	-	-	-	-	-
Directly link rewards or promotion to SQT scores.	-	-	-	-	-	-	R	-	-	-	-	-
Local USARF schools modify SQT to consist of "critical" tasks.	-	-	-	-	-	-	R	-	-	L	-	-
Use SQT to diagnostically, i.e., to identify areas requiring further independent study at home or in the training center/armory.	-	-	-	-	L	-	R	-	-	-	-	-
Use SQT to certify proficiency and merit of pay for private study.	-	-	-	L	L	-	R	L	L	-	-	-

10

Problem

Solution	A	B	C	D	E	F	G	H	I	J	K	L
Screen recruits based on basic personality characteristics such as self-esteem and locus of control.	U	L	–	–	–	–	–	R	–	–	–	–
Reduce the number of skills and tasks to the absolute minimum number of truly essential tasks.	–	–	–	–	–	L	–	–	–	R	–	–
Coordinate, consolidate and clarify expectations from the various sources of guidance.	–	–	–	–	–	L	–	–	–	R	L	–
Streamline inspection procedures.	–	–	–	–	–	–	–	–	–	–	R	–
Limit total number of annual inspections per unit.	–	–	–	–	–	–	–	–	–	–	R	–
Eliminate redundant and unsupported administrative requirements.	–	–	–	–	–	–	–	–	–	–	R	–
Simplify procedures and reports.	–	–	–	–	–	–	–	–	–	–	R	–
Develop an RC oriented administrative automation architecture.	–	–	–	–	–	–	–	–	–	–	R	–
Provide more local training areas.	–	–	–	–	L	L	–	–	L	–	–	R
Standardize support, evaluation and administration.	–	–	–	–	–	L	–	–	–	–	L	R
Increase emphasis on readiness groups.	–	–	–	–	L	L	L	–	–	–	L	R
Modernize equipment.	–	–	–	–	L	L	–	L	–	–	–	R
Reconfigure training courses to RC needs.	–	–	–	L	L	–	–	–	–	–	–	R
Develop a relationship between RF schools and the active force training base.	–	L	–	–	L	L	–	–	–	–	–	R

(table continues)

Solution	Problem											
	A	B	C	D	E	F	G	H	I	J	K	L
Use Central coordination to assist RC units in utilizing all the resources of the Army.	-	-	-	-	L	L	-	L	-	-	-	R
Provide non-reimbursable, organic air transportation to special training facilities.	-	-	-	-	L	L	-	L	-	-	-	R

Note. Relationship codes:

R = This action (row) is Recommended in the literature as a solution to the problem (column).

L = This action (row) could logically have a desirable effect on the problem (column), but is specifically recommended in the literature as a solution to a different problem.

U = This action (row) would probably have an Undesirable effect with regard to the problem (column).

Problem codes:
A = Strength Shortages
B = Attrition
C = Premature Large Unit Training
D = Turbulence
E = Inadequate Individual Skill Training
F = Lack of Relevance/Realism in Training
G = Lack of Adequate Feedback
H = Low Morale
I = Limit on Time for Training Assemblies
J = Excessive Training Requirements
K = Administrative/Nontraining Requirements
L = Geographical Dispersion

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The fact that overall strength is not considered to be much of a problem at present might itself indicate that other equally serious but less apparent problems exist. If enlisting "warm bodies" were all that is required to satisfy the need to have soldiers available for training, the need would be easily filled. However, concessions made to obtain more of one essential can sometimes interfere with obtaining a sufficient supply of another. Soldier availability is a case in point: Being too picky at the recruiter's office could adversely affect enrollment strength. Then again, pursuing strength quotas without regard to enlistees' aptitudes or motivation to participate in the RC can jeopardize readiness as surely as insufficient strength can (Covington, circa 1985; Grissmer & Kirby, 1984). To use an analogy, the fact that ship builders report no lack of planks to build ships during a time when good wood is difficult to obtain could mean that the poor quality of the wood being used will not be manifest until tried on a stormy sea. In a crisis the appearance of quantity cannot compensate for lack of quality.

Solutions for Strength Shortages

The literature offers only a few solutions on how to increase accessions, perhaps because enrollment is not thought to be a major problem. One solution involves conducting and applying research on enlistment motivation (Orend, Gaines, & Michaels, 1977 and Westat, Inc., 1986). For example, the results of one study (Orend et al.,1977) showed that the predominant reasons given for joining the USAR were the opportunities to learn new skills, earn extra money, and expand career opportunities. Recruiters could capitalize on these drawing points and trainers and leaders should make sure recruiting promises are not hollow.

A second area of solutions to the enrollment problems is to recombine existing weak units to make stronger ones. While system-wide levels of strength are adequate, maintaining authorized strength for specific units can be difficult. This is not so much a problem of getting sufficient numbers as it is a problem with filling specific key slots so that teams, crews, sections and squads can train and function effectively. To help overcome strength problems at the unit level Heymont and Muckerman (1980) made the following suggestion:

> In areas with numbers of understrength RC units, consideration should be given to inactivating the later deploying units in an effort to increase the strength of the earlier deploying units. (p. 3-3)

This would allow some units with chronic strength problems to contribute their soldiers to the strength of nearby units;

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then new units could be opened up in areas where the recruiting opportunities are greater. It may seem a logical variation to cut down on the total number of units and use the smaller denominator to improve the strength of individual units. The potential fallacy in this is a pervasive challenge in the RC, i.e. geographic dispersion combined with the home-bound nature of part-time soldiers. That is, units must exist where unit members can easily gather for training. Taking a number of weaker, dispersed units and combining them into fewer but more complete units could induce a significant loss of personnel from areas which are less urban because of the inconvenience of traveling farther to drills.

Cause: Loss of Strength Through Attrition

Enrolling soldiers is one thing. Keeping them is another. Attrition is loss of soldiers to the RC. This is different from turbulence (a separate problem to be discussed later) in that the latter includes soldiers changing units _within_ the system (usually because of a change of residence).

> The Army Reserve and Army National Guard annually enlist approximately 70,000 individuals who have had no prior military experience. . . . Estimates from . . . projections based on the FY 1980 cohort show that approximately six in ten Army guardsmen and three in four Army reservists will separate before completing the full term. (Grissmer & Kirby, p. v)

Solutions for Attrition

Give more accurate expectations to candidate enrollees. Skipper (1984) made the following suggestion to reduce attrition:

> The Department of Defense should revise Reserve Component recruiting campaigns to better reflect the true military commitment that prospective recruits are being enticed to make. Portraying a more realistic picture of total annual training time requirements should reduce the number of soldiers who eventually separate from Reserve Component duty because of the requirement to train for more than thirty-eight (nine) days a year. (p. 179)

The actual number of days per year spent by the average enlisted soldier in military duty is 55 in the ARNG and 50 in the USAR. The actual number of days spent by the average officer is 73 in the ARNG and 55 in the USAR (Office of the Assistant Secretary of Defense, Reserve Affairs, 1986). Paid time _beyond_ the thirty-eight/nine days per year allotted by

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Congress for training assemblies comes from "soft money" funding which may vary in availability from year to year.

Improved enlistment standards. The literature indicates that the higher the educational level of the personnel enlisted, the lower the overall attrition rate would be.

Other things equal, . . . high school nongraduates have significantly higher separation rates than high school graduates, and those with higher aptitude scores have lower attrition rates. (Grissmer & Kirby, 1985, p. vi)

The timing of attrition differed markedly in the Army National Guard and Army Reserve. For the Guard, 70 percent of civilian attrition occurred during [initial] training; for the Reserve, only 28 percent occurred during training. The statistical pattern suggests that lower levels of training attrition lead to higher levels of posttraining attrition. It suggests also that individuals who survived Guard training were more highly selected and thus less likely to leave after training [emphasis added]. For the Reserve, the pattern appears to be the opposite. These patterns may reflect the different screening procedures used for combat-oriented skills in the Guard in contrast to combat-support skills in the Reserve. They may also result from different training policies in the two components. (Grissmer & Kirby, 1985, p.vii)

The Army can reduce training costs [wasted resources caused by attrition] by improving (1) the selection criteria for recruits and (2) the balance between recruiting resources and training costs. By increasing recruiting resources, the Army may attract higher-quality recruits and lower training costs with a net budgetary saving. (Grissmer & Kirby, 1984, p. iii)

Increase soldier satisfaction. Obviously, soldiers who are satisfied with their experience in the RC are more likely to continue their membership than those who are dissatisfied. The Defense Manpower Data Center (1984) found the following using survey research techniques:

Individual background (e.g., pay grade) and other factors [other than ID card color which only accounted for 2% of the variance in outcome variables] were much more important in explaining members' [of RC from all services] satisfaction. Degree of satisfaction, in turn, was a major factor in members' stated intentions to remain until retirement or to leave, as was total length of time already spent in the military. (p. viii)

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Martin and O'Laughlin (1984) used a sample consisting of two battalions of U.S. Army Reserve members to determine the following:

Increased job satisfaction and stronger intent to stay consistently entered each equation as the first and second predictors [of emotional, loyal commitment to the Guard or Reserve], respectively. Group cohesion also appeared in more than one equation. (p. 270)

Variables not predicting commitment in the Martin & O'Laughlin (1984) study were: variety in one's military job, communication, promotion, compensation, discipline, training, time management, spouse nonconflict, civilian career nonconflict. This gives a clue as to which type of satisfaction, namely satisfaction with one's job assignment, may be the most influential on commitment and retention.

Utilize time more efficiently. The Office of the Assistant Secretary of Defense, Reserve Affairs (1986) presented evidence to show that increases in the amount of extra time soldiers are required to train (beyond 38 or 39 man-days/year) may adversely affect recruiting and retention. An across-the-board reduction in training time from the 55 man-day average is not tenable in light of the increased sophistication of weapons and equipment plus increased demands placed on the RC to be maximally ready to defend the country. However, one report to the Congress offered a compromise in which units and individual soldiers would be required to attend training only to the degree essential for their particular function (Comptroller General of the United States, 1975). "This report alerts the Congress that some members in all Reserve components and Reserve units can maintain proficiency under a reduced training schedule" (p. i). In the report GAO recommended that the reserve components:

Identify early deployment units and provide them with sufficient training to achieve required proficiency.

Reduce training schedules for units which have sufficient postmobilization time to upgrade proficiency.

Reduce training schedules for reservists whose military jobs are not difficult or are similar to their civilian jobs, or who have otherwise achieved required skill levels. (p. ii)

Obviously, individual soldiers could have their required training time reduced only if a team, crew, section, or unit were not dependent on their being present to fulfill a role which is necessary for the efficient training of other soldiers. Still, where application is feasible, GAO's

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suggestion might bring partial relief to the tensions
contributing to retention difficulties.

A second time factor which could reduce attrition involves
wasted time. The investigation which preceded GAO's report to
Congress included a survey of 1,663 respondents. The survey
showed that "Satisfaction correlated closely with the portions
of training devoted to the reservists' official military jobs.
Idleness appears to be a primary cause for reservists'
dissatisfaction" (p. 32). The survey further showed that fifty
percent of the time soldiers spent in IDT and forty percent of
the time they spent at AT was "wasted" either in idleness or in
"general military jobs" not related to their military
occupations. The findings of Viner, Moore, and Eisley (1987)
in a survey of all ARNG and USAR soldiers in Idaho suggest that
the wasted time factor may only be half as great as it was in
1975. Nonetheless, the amount of time currently wasted in the
RC is still alarming. The 1987 survey also confirms the
finding of the 1975 one in that soldiers felt that time
"wasted" doing things not related to their individual military
occupations was the primary obstacle to personal readiness.

Methods for reducing time waste will be discussed under a
different heading. The point to be made here is that the
problem of time waste is not insignificant, and it plays a
definite role in the problem of attrition.

Make training more interesting and meaningful. Heymont &
Muckerman (1980) report the following:

High rates of . . . loss of personnel . . . are found in
most RC units. There are many reasons for this situation,
including . . . lack of challenging mission-related
training. (p. 3-3)

The Office of the Secretary of Defense (1987) pointed out
the following:

Rigorous, satisfying, mission-oriented training is also an
important factor in an effective retention program.
Reserve component personnel need to remain challenged,
productive, and convinced that their duties contribute to
their unit's missions which are important to the nation.
(p. 14)

Another factor which engenders learning interest is the
use of advanced training technologies. Greater application of
these technologies in the RC is encouraged throughout the
literature (e.g., Kirkland, Raney, & Hicks, 1984; Office of the
Assistant Secretary of Defense, Reserve Affairs, 1986; Office
of the Secretary of Defense, 1987; Rice, et al., 1986; Turley,
1986; Viner et al., 1987; VISTA 1999 Task Force, 1982; US Army

Training Board, 1987). This would not only serve to enhance retention by improving the quality of training, but it has a drawing power of its own. Soldiers who have the opportunity to use computers, simulators, and other high-tech training devices find interest and enjoyment in using these media.

Conduct and apply research on retention/attrition. Research to identify factors related to retention has already born some fruit. The factors already identified relate primarily to characteristics of accessions. However correlates of attrition/retention may be found in several other areas, such as unit characteristics, various training schedules, type of military occupation, methods used for receiving training, etc. There is much room for research effort which could pay important dividends in terms of attrition reduction.

Efforts to apply what is currently known could also improve retention. For example, Grissmer and Kirby (1984) point out that "by identifying recruit characteristics likely to lead to separation, [research] provides a basis for setting improved enlistment standards (p. iii)." Doering and Grissmer (1984) summarized the research findings relative to retention/attrition. A list of the highlights follows:

> The variable with the highest statistical significance, the largest effect on attrition, is usually the educational attainment of the individual. . . . Attrition increases inversely with educational attainment. . . . Those graduating from high school have one-half the attrition rate as non-high school graduates.

> Other things equal, those with higher aptitude scores have lower attrition than those with lower scores.

> Pre-military labor market experience does diminish attrition.

> Several recent studies . . . and reviews . . . conclude that retention depends on compensation. . . .

> Research results which focus on training attrition . . . show similarity [between reserve and active enlistees] in the import of various variables on attrition. [But there are some differences:]

> Conflicts with spouses and civilian employers have been shown to be the two leading reasons for reservists leaving at their end of term.

> Reservists [were] less motivated by monetary concerns than the average moonlighter, and seemed to have strong taste for the reserve job itself. . . . This basic taste for

reserve participation is similar to that found in various
voluntary organizations. There, association is not based
on monetary, but leisure time needs. The reserve job
seems to be somewhere between this kind of "voluntary"
participation and the typical monetary induced
moonlighter. (pp. 12, 13, 16, 17, 20)

Problem: Lack of Prerequisites

*Need 2: The pretraining aptitudes and skills of soldiers
need to be at prerequisite levels.*

Before learning any complex skill, the learner must have
two things: (1) the general aptitude or potential for full
acquisition, and (2) whatever simpler skills are required to be
combined into the more complex skill. Without the needed
prerequisites, more advanced training is largely a waste of
time.

For example, becoming adept at reconnaissance requires
that the soldier have a certain level of native intelligence
and ability (e.g., a sense of direction, depth perception,
color sensitivity, physical relationships, etc.). For lack of
such aptitudes, some individuals could never excel at
reconnoitering, even if they tried for years. But also, an
individual with all the necessary aptitudes cannot learn to
conduct reconnaissance well without having previously acquired
the building block of basic map reading. For purposes of this
discussion, such building blocks and aptitudes are referred to
as "prerequisites."

Cause: Premature Large Unit Training

There is a prevalent tendency in the RC to attempt to
train soldiers in skills for which they do not have the
necessary foundation. This is partly due to the anxiety to
achieve readiness under resource constraints, and partly due to
emphasis on collective training at higher levels. Premature
collective training at too high a level (e.g., company level
rather than platoon level) can be detrimental to the mastery of
individual and team/crew skills (Viner et al., 1987). It can
also make the collective training less successful than it would
be if individual skills were developed first. The tendency to
push training too high too soon is linked to a particular
philosophy (not necessarily the only or even the best one
possible) regarding how the RC should meet the congressional
mandate to prepare ready units, in addition to ready soldiers.

During 1986 the two most critical limiting factors for the
lack of readiness in the Army RC were "Equipment On-Hand" and

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"Individual Skill Qualification." (Office of the Secretary of
Defense, 1987) This means that individual skill qualification
is the RC's number one training need. Currently the RC is
trying to meet this need through multi-echelon training. This
term implies that individual and section-level skills are to be
learned or practiced during larger unit training. In some
instances, especially when the skills or knowledge have never
been previously acquired, the demands of larger unit operations
become a competitor for the precious time and attention of
individual soldiers.

     The senior leaders interviewed by Viner et al. (1987)
indicated the following:

     RC units (especially combat units) are pressured to train
     at higher echelons. Training at levels beyond
     company/troop limits the effectiveness of training for
     lower echelons. Wartime requirements for the RC stress
     deployment of units as organized (e.g., battalion,
     brigade, division), which tends to force training into
     higher levels at the expense of lower level unit and
     individual training and readiness. (p. E-9)

     Viner et al. (1987) found that RC soldiers in Idaho felt
that training is more effective at lower rather than higher
levels (42% agreed, 33% neutral, 18% disagreed). The soldiers
also felt they need more time to train on individual common
tasks (63% agreed, 25% neutral, 12% disagreed) and individual
MOS tasks (77% agreed, 19% neutral, 4% disagreed).

Solutions for Premature Large Unit Training

     A study of longer training programs (Office of the
Assistant Secretary of Defense, Reserve Affairs, 1986) suggests
that resources earmarked for longer unit training programs
would be better used to "address what is generally a more
pressing training problem, individual skill qualification." (p.
V-5, emphasis added)

     The senior leaders interviewed in the Idaho survey (Viner
et al., 1987) were agreed that the RC should "restrict all
external ARTEP evaluations to platoon level until ARTEP
proficiency at platoon level has been proven." (p. E-12) They
recommended that the RC "train individuals first, then go to
small unit training." (p. E-12). They suggested "a progressive
(i.e., 'crawl, walk, run') training strategy to avoid
attempting to train at too high an echelon for the experience
level of the personnel" (p. 11). They also recommended
"dedicated training time for NCOs to complete individual skill
and small unit training" (p. 11).

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Heymont & Muckerman (1980) made the following recommendations:

> Most of the RC units studied are more dependent on individual than on collective skills for effective mission performance. Flexible scheduling permits tailoring IDT and AT more closely to the needs of individuals and small subunits and provides an improved capability to exploit hands-on training opportunities at DARCOM [now Army Materiel Command] installations, TRADOC schools, and with Active Army units and installations. A number of Readiness Region and Group personnel and RC unit commanders have suggested that AT every year for a unit as a whole is not advisable in all cases. It has been suggested that for some units the equivalent of AT might be used once in every 3 years for skill training of individuals at concentrated courses at TRADOC schools, or for carefully structured on job training at selected installations or with Active Army units. (p. 3-9)

The US Army Training Board (1987) recommended that the RC avoid using troops as training aids for the purpose of providing practice for officers in higher level units. They suggested:

> Maintaining battalion level operations as the goal of operational proficiency while more clearly establishing the company as the focal point of effective collective training in the field.

> Strongly orienting battalion and above staff and integrative training on CPX's, simulations, TEWT's, and other non-troop intensive training vehicles. (US Army Training Board, 1987)

Cause: Turbulence

Other deterrents to filling the need for prerequisite aptitudes and abilities have to do with soldiers who hold those prerequisites becoming suddenly unavailable and being replaced with soldiers who now lack the prerequisite know-how to benefit from subsequent training. These deterrents are commonly referred to as turbulence and attrition. Their effect on the training of a given unit is the same. They are only different in how they affect the overall system.

"Turbulence" refers to personnel turnover within a unit. Such turnover can be caused by attrition (soldiers leaving the entire RC) or by soldiers changing units within the system (usually because of a change in employment and residence) or jobs within a unit. The latter, internal type of turnover is

sometimes not differentiated in the literature from attrition.
In many instances, however, intrasystem turnover is
specifically referred to as "turbulence" and losses to the
system are labeled "attrition." For purposes of this
discussion, the latter distinction in terms will be maintained.

Srull et al. (1985) explain the problem of turbulence in
the following way:

> Personnel in the Reserve Components are not geographically
> interchangeable among units by a central authority as they
> are in the Active force. This unique aspect of the
> Reserve Components has at least two implications with
> respect to individual training of technical skills:
>
> The impact of losing a trained, high-skilled member
> of a reserve unit, especially if it is a low density
> skilled position (e.g., 1 or 2 positions per unit), is
> severe. Unlike the process followed for an active unit,
> the reserve unit must acquire a replacement from locally
> available resources. That recruit must then attend
> initial skills training before filling the needed billet.
> The time required to replace such losses with qualified
> people can be extremely long.
>
> In low density skills, the opportunity for career
> progression within a single unit can be extremely limited.
> This can encourage trained, skilled people to transfer to
> another skill positions having better promotion potential,
> but requiring additional and different training. Even
> when a member of the Guard or Reserve moves from one city
> to another, he or she may have no opportunity to join a
> unit offering the same job or a similar job because no
> unit requiring that skill exists in the new locale. (p. 2-
> 6)

The manner in which prerequisites are affected by
turbulence is as follows. The training scheduled for units is
usually aimed at a level which presupposes that initial
training has already been completed by the soldiers involved.
When a position is vacated and filled with an untrained
recruit, most of the specialized job skills and experience
required for the position are lost. Except for the common
denominator of basic training, the new recruit may not have the
prerequisite skills his/her predecessor held. Thus, not only
does a great deal of subsequent unit training time become a
futile effort for the new recruit, but the effectiveness of
training activities for entire teams, crews, and sections can
suffer because the recruit cannot yet function adequately. A
vicious cycle is perpetuated in which the demands of unit
training on the recruit's time precludes individual skill
acquisition, and the recruit's lack of individual skills

interferes with unit training. This is often the case even within the guidelines of multi-echelon training. Result: frustration, apathy, more turbulence and attrition.

Solutions for Turbulence

Some of the same solutions which can be aimed at reducing attrition should also be somewhat effective with turbulence. The solutions mentioned earlier which apply to turbulence include: (1) increase soldier satisfaction--especially with military job, time demands, and espirit de corps; (2) use time efficiently; (3) make training more interesting and meaningful; and (4) conduct and apply research, in this case with a focus on turbulence.

In some areas soldiers have an option of traveling a few extra miles to transfer to a nearby unit. Obviously they would be less likely to do so if the relationships, training, chances for career progression, and activities of their current units and military occupations were gratifying (Srull et al., 1985).

Cause: Loss of Prerequisites Through Attrition

Grissmer and Kirby (1984) noted the following with regard to the loss of prerequisites through attrition:

> Each year the Army National Guard and Army Reserve need between 120,000 and 160,000 enlistments to maintain strength levels. Currently, about one-half of these enlistees lack prior service and thus need basic and skill training to qualify in a military occupational specialty. The cost of recruiting and training varies with the length of training, but can easily average $5000 per recruit. Personnel who leave the military before completing their training incur training expenses but fail to usefully pay back the investment in their training. (p. iii)

Solutions for Loss of Prerequisites Through Attrition

Change policies which force trained soldiers out. The VISTA 1999 Task Force (1982) made the following recommendations:

> The existing age criteria that eliminates personnel, for either time in grade or length of service in the active and guard forces is unrealistic and in many cases non-productive when related to the various skills and [reduced] physical demands required by the weapons systems of today and tomorrow. (p. ii)

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. . . The "youth oriented" policies of the services
should be amended to provide for the continuation of more
experienced and older personnel in selected and
predetermined positions and skills. (p. iv)

. . . The military services should review the
physical standards established for qualification for
initial enlistment and retention in the armed
forces. . . . It is difficult to justify some of the
criteria for which individual[s] are rejected from
military service in light of the demands of certain skill
areas. (p. 25)

Cause: Inadequate Individual Skill Training

The quality of initial training RC soldiers receive is
related to their lack of prerequisites in the following way:
The constraints of time, money, and soldier willingness to be
away from home for extended periods of time all make it
mandatory that initial training be as brief as possible. The
goal of briefness, however, is in opposition to the need for
soldiers to be better prepared in their basic skills before
they are sent out to function in the field. Typically, when
soldiers return to their units from initial training, they lack
many of the skills they need to function. They are expected to
gain the rest of their MOS skills through supervised on-the-job
training (SOJT). In many cases this amounts to nothing more
than unsupervised trial and error extended over years of short,
segmented training periods in MOS skills which no one at the
local unit may be qualified to teach or supervise.

Complicating the reserve training challenge is the Army's
training strategy which is to train to just a few critical
tasks in initial entry training, leaving the rest for unit
command to accomplish in the unit programs of on-the-job
training. . . .

When working in maintenance shops in programs of on-
the-job training, technical know-how is gained only on
those tasks and those repairs in the shop--peacetime
training failures. Lack of equipment and time make OJT a
self-deluding myth for the reserve components. (Turley,
1986, p. 3)

The inadequacy of initial training combined with the
inadequacy of SOJT means that it is difficult for soldiers to
benefit optimally from many of their IDT activities. When
opportunities for realistic operations arise, soldiers do not
have an adequate foundation to allow them to assimilate what
could be gained from their field experiences. Further, a lack
of prerequisite MOS skills makes it difficult for soldiers to

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benefit from collective training where the goal is to learn how
to integrate individual skills into harmonious coordination
with the roles of other soldiers.

All of the above reasoning applies even more directly to
MOS reclassification training, where sometimes it is not
possible for soldiers occupying new duty positions to leave
home and work to attend school for MOS training. Viner et al.
(1987) found that "in terms of acquiring individual skills,
reclassification training is the biggest problem for soldiers
changing MOSs" (p. iii)

Solutions for Inadequate Initial Training

Create a separate program of initial training for the RC.
Heymont and Muckerman (1980) pointed out that personnel
strength is negatively affected by "the use of a common Program
of Instruction (POI) for initial skill training for both Active
Army and RC personnel" (p. 3-10). This implies that RC
soldiers are sometimes getting the wrong prerequisites to
benefit optimally from IDT at their home units. It also
implies that soldier frustration with their training foundation
causes those useful prerequisites soldiers do receive to be
lost to the system through attrition and turbulence.

Flexible and abundant use of high-tech training media.
Turley (1986) addressed the inadequacies of initial and on-the-
job training to give soldiers a foundation of individual
skills. He then pointed to advanced training technology as a
solution:

> The reality is that transportation eats time--training
> time. Rather than taking all of our personnel to the
> training centers, we need alot of little training devices
> that we can bring to our reservists in the 4,320
> communities and 10,920 armories and training centers
> throughout the land. . . .
>
> To ensure our seven reserve components are truly a
> viable national asset, technology which can provide a
> measure of realistic training must be integrated into
> every armory and training center. With this expansion of
> training devices and simulators into our nation's dynamic
> reserve forces, I foresee a day when the thousands of
> intermittently used armories and training centers become
> the military's near full-time learning centers; a day when
> training schedules become fully flexible to allow maximum
> use of each center and every device; a day when the most
> complex of skills can be sustained through simulation.
> (pp. 2-4)

Flexible MOS reclassification strategy. As regards MOS
reclassification training, Viner et al. (1987) proposed a
flexible strategy to match soldiers' personal schedules.

The strategy is based on test performance involving the
same tasks and standards for both AC and RC soldiers. RC
soldiers who are changing MOS must pass the Advanced
Individual Training (AIT) End of Course Comprehensive Test
(EOCCT) as do AC soldiers, but the strategy for how the
skills are acquired is flexible. Elements of the strategy
include:

1. Video cassett recorder (VCR) tapes for home-based
    study
2. Questions and answers handled asynchronously
    using the telephone and an automated message and
    distribution system.
3. Training center/armory based computer-aided
    instruction/computer-based instruction (CAI/CBI)
4. Supervised hands-on performance with the
    equipment during IDT and AT
5. SOJT for selected tasks
6. U.S. Army Reserve Forces (USARF) schools for MOS
    instruction and EOCCT testing
7. Pay for home study (if any) dependent on passing
    the test. (p. iii)

Problem: Lack of Learning Motivation

Need 3: Soldiers need to be motivated to learn.

Learning motivation is important in order to make good use
of limited time available for training. If the level of
learning motivation were as high during IDT as it would be in
the case of war-time mobilization, fifty to fifty-five days of
training would probably show amazing progress in skill
acquisition. Obviously that level of motivation cannot be
artificially generated in a peacetime army. It does, however,
point out the fact that there is a huge and partially fillable
gap between current and potential levels of motivation.

Cause: Lack of Relevance and Realism in Training

When soldiers are unable to see how their training
experiences would be useful or adequate upon mobilization,
their ambition to give training their best effort wanes.
Experience in the RC bears this out. For example, Henriksen
(1984) found that a "lack of a perceived training need"
threatened the effective utilization of tactical training
methodologies. Srull et al. (1985) point to the lack of

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realism as a real difficulty in training especially soldiers in logistics MOSs:

> Opportunities for mission-related workload often occur during annual training only. As a result . . . little effective sustainment training actually takes place for many logistics specialties. (p. 2-6)

Solutions for Lack of Realism in Training

Improved processes and standards for supervised on-the-job training (SOJT). Heymont and Muckerman (1980) point to hands-on, realistic training opportunities as a solution:

> Mission-related . . . hands-on training is limited in both IDT and AT because opportunities are few, not uniformly available, and usually dependent upon the initiative of individual commanders and Army Readiness Region and Group personnel. . . .
>
> Major improvement can come primarily through intensive management of early deploying units to ensure concentration on core tasks, increased provision for hands-on training, and maximum use of all opportunities for such training. (pp. 1-2 to 1-6)

Viner et al. (1987) recommended a more judicious application of SOJT only where such training would be relevant and realistic. They suggest that SOJT be retained as part of a structured training program, and applied only to those tasks which are repeated often in the unit environment. This is in contrast to past procedures:

> SOJT has been used frequently [for MOS reclassification] because schools take soldiers out of the unit for long periods of time and often do not meet the personal schedules of RC soldiers in terms of course length and dates. SOJT can be effective for some tasks that are practiced frequently in the unit. On the other hand, uniform standards of performance may not be achieved with SOJT. Unit NCOs often have competing responsibilities that make proper supervision difficult. In addition, unit NCOs may not be qualified to train some MOSs, particularly those with a low density. (p. iii)

Additional training on MILES operation. Viner et al. (1987) found the following:

> RC soldiers encountered difficulties in operating and maintaining MILES, and using controllers to appropriately control MILES exercises. As a result ARTEP training with

MILES lacked realism. Miles is new to the IDARNG and must still be borrowed for Idaho USAR units. Part-time soldiers as yet have received little training on the operation and maintenance of MILES and have had little opportunity to observe effective tactical training with MILES. A training committee was recommended [by senior leaders] to fulfill time-consuming training preparation and control functions, including setting up ranges, and mounting MILES on tracked and wheeled vehicles, in advance of IDT and AT training.

The creation of job-aids was recommended to help part-time soldiers mount and troubleshoot MILES equipment on tracked and wheeled vehicles. (p. iv)

Make Available More Practice Battle Fields. Nogami and Grissmer (1986) found that the National Training Center (NTC) can be a catalyst for permanently increased readiness:

The train-up for NTC and the NTC experience were seen by all participants as the "best training", the "most realistic training", the "most challenging training" around. Units reported being in their most ready posture after NTC even after sustaining strength losses. (pp. 56-57)

Viner et al. (1987) recommended that facilities similar to the NTC be used to give "RC soldiers . . . the opportunity to observe and experience realistic training." (p. iv) Facilities such as Gowen Field's "Multi-Purpose Range Complexes (MPRC) and Combined Army Training Facility (CATF) [are] similar to the NTC in terms of instrumentation, including automated ranges and battle replay capability." (p. iv)

Maximize the use of overseas deployment for training. The Reserve Forces Policy Board has resolved to encourage continuation and expansion of overseas training for RC soldiers:

Training overseas is especially effective and in the case of some services essential--permitting Reserve and Guard personnel to receive training not available in the United States, exercise mobilization plans, and contribute to real world missions--all of which improves readiness. . . . Overseas Deployment training (ODT) programs or other training outside the continental United States allow the reserve components to conduct realistic mobilization mission training in peacetime, in many cases with the organization with which they will be associated when mobilized. (Office of the Secretary of Defense, 1987, p. 70)

The VISTA 1999 Task Force (1982) also recommended that "Overseas deployment for training of units should be continued on an expanded basis" (p. v).

Expand the use of combined force training. The following recommendation of the VISTA 1999 Task Force (1982) could do much to enhance the similarity of training to real war-time situations:

> Combined Forces training area sites are required and should be established reasonably accessible to National Guard combat troop concentrations to allow frequent training with maneuver units. These facilities should allow employment of live ordnance, close air support and include state of the art training aids such as pop-up targets. (p. iv)

The following recommendation of the Office of the Secretary of Defense (1987) is along similar lines:

> Exercising various Service units together as a combined force closely approximates the conditions under which the Services can expect to operate and provides significant insight into the operations of sister Services. . . . Each Service should explore other possibilities for operational missions for their reserve components. Opportunities may exist for other elements such as: maintenance units, ammunition/cargo support units, additional administrative aviation support within the US, or auxiliaries for replenishment units. (pp. 72-73)

Maximize use of the KPUP concept. The Key Personnel Upgrade Program developed by the ARNG has provided very realistic and motivating training for soldiers. The US Army Training Board (1987) urges expansion of this concept:

> Various interface programs between the AC and RC have probably done more than any single concept to enhance the overall level of readiness and training in RC units. The KEEPUP [sic] program and others have offered RC soldiers opportunities to serve for short periods of time with AC units. (p. 38)

A logical next step would be to involve the USAR in similar opportunities.

Promote year-around interface between ARNG and USAR units. When ARNG and USAR units combine their resources, equipment, skill base, and personnel strength, more realistic training is made possible. However, as the US Army Training Board (1987) points out, this opportunity is seldom utilized:

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The total interface and mutual support [between ARNG and USAR units] in training at the unit level is, however, relatively low and there is a great deal of potential available for mutual and cooperative interface in training at unit level throughout the year which can benefit both. The Army, through AR11-22, has established an informal mutual support and equipment sharing program, but unit trainers are not familiar with it. . . . It appears that a more concerted effort, using a variety of methods, to encourage interchange and mutual training and training support between ARNG and USAR units could yield training advantages to the force and to individual units. (p. 47)

Maximize the use of field (vs. classroom) training environments. Goodman (1986) found that soldiers' motivation increased in a nonclassroom training environment for IDT. He attributes this increase to a higher degree of realism in the field environment.

Maximize the use of advanced training technology. Advanced training technology has an allure of its own for learners. A certain amount of motivation is generated simply because the learner is challenged by a machine. But more germane to the discussion here is the ability of advanced training technology to provide greater realism to the learning situation. Simulators, interactive video disc systems, and other training devices are recommended prolifically in the literature. For example, US Army Training Board (1987); Rice et al. (1986); Turley (1986); VISTA 1999 Task Force (1982); Viner et al. (1987); Kirkland et al. (1984); Office of the Assistant Secretary of Defense, Reserve Affairs (1986); Office of the Secretary of Defense (1987) all join in encouraging the development and use of high-tech devices as a mandatory focus for future RC training.

Cause: Lack of Adequate Feedback

It is logical to expect that when soldiers are unsure of whether they are making progress, or what skills they need more work on, their eagerness to apply themselves decreases. Unfortunately, feedback to the individual soldier is haphazard at best. A report of the United States General Accounting Office (1986) showed that less than two-thirds of the soldiers to whom commanders were required to administer a skill qualification test (SQT) were actually tested. The reasons unit officials gave for noncompliance with the requirement was inadequate command emphasis and reservists lacking incentives to take the test. The percentage of soldiers receiving an acceptable score ranged from 79% in the Sixth Army to 34% in the Fifth Army. One of the major reasons given by unit officials for this low performance on the SQT was lack of

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incentives to do well. That is, rewards and promotion are not tied directly to doing well on the SQT.

Solutions for Lack of Feedback

The SQT is certainly not the only imaginable method for giving timely, helpful feedback to soldiers. (One avenue of seeking remedies to the lack of feedback would be to explore mechanisms which work at the level of individual soldiers in their interface with their immediate supervisors.) But the method of feedback most uniformly available throughout the RC is still the SQT.

Stemming from the GAO findings on soldiers lacking incentive to take or do well on the SQT, it is logical to assume that the SQT will not motivate learning or retention unless and until scores are somehow directly linked to rewards or promotion. The problem with so doing, however, is that the validity of many items on SQTs is questionable in the RC. Items on the SQT for each MOS/branch specialty need to be adapted to the RC in terms of the actual equipment, procedures, and policies used in the RC. Otherwise, success on the SQT would become academic--almost an arbitrary criterion--and scores on the SQT could not be fairly applied to a reward system. Soldiers would no longer see the SQT as being valid or personally instrumental. Or else, if soldiers are rewarded for performance on a test which has no relevance to job requirements, motivation to learn what is needed for actual job performance would be preempted by study for the test.

Viner et al. (1987) recommended the following:

The Skill Qualification Test (SQT) could be modified by local USARF schools to consist of "critical" tasks. The modified test could then be used to identify areas requiring further independent study at home or in the training center/armory, and to certify proficiency and pay, if any, for the additional study. (p. iii)

Cause: Low Morale

Deliva, Wacker, & Teas (1985) defined two basic components of learning motivation as: (1) expectancy (belief that increased effort on the task will result in increased performance) and (2) instrumentality (belief that increased performance on the task will result in increased rewards). When morale is low, soldiers can lack either or both of these ingredients. They often cannot see any possibility for progress to be made or rewarded, hence they are not motivated to try to improve their performance.

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Solutions for Soldier Dissatisfaction

Interestingly, the research of Deliva et al. (1985) with NCO's shows that many external differences in the soldiers' training environment do not affect performance motivation. Specifically, variations in the following had no positive effect: skill variety (the extent to which a job requires a variety of different activities in carrying out the work, which involves the use of a number of different skills and talents of the person); task identity (the extent to which the job requires completion of a 'whole' and identifiable piece of work, that is, doing a job from beginning to end with a visible outcome); task significance (the extent to which the job has a substantial impact on the lives or work of other people); autonomy (the extent to which the job provides substantial freedom, independence, and discretion to the individual in scheduling the work and in determining the procedures to be used in carrying it out); structure (the extent to which soldiers perceive that their supervisor initiates structure). The low impact of these variables is somewhat surprising. It is important to know what factors have an impact on morale. But it is equally important to know that the factors listed above, which could naturally be assumed to be morale boosters, actually have little effect in the RC. Otherwise much effort and money could be expended on fruitless efforts to improve morale.

Three external variables did have a positive effective on soldiers' performance motivation in Daliva et al.'s 1985 study: (1) organizational feedback (the degree to which they received feedback on their performance from their organization); (2) consideration (the extent to which the leader promotes a work climate of mutual trust and respect, psychological support, helpfulness, and friendliness); and (3) participation (the extent to which soldiers perceive that they are allowed to participate in organizational decisions affecting their jobs). Actions which improve these factors in the RC should increase soldiers' morale and their motivation to learn and perform well.

Though several promising external variables had little effect on performance motivation in Daliva et al.'s 1985 study, three internal ones had the most profound influence. These were: (1) generalized self-esteem (overall competence with everyday life situations and broad feelings of personal regard for the self), (2) specific self-esteem (self-regard with respect to actual performance on the job), and locus of control (the extent to which the individual believes the events in life are internally controlled or externally controlled by forces over which the person has no personal control). This finding suggests the possibility of more screening of recruits based on

basic personality characteristics such as self-esteem and locus of control.

Another factor which research has shown to contribute to low morale is time waste. The Comptroller General of the United States (1975) fount that "Idleness is a major cause of dissatisfaction among reservists" (p. i). This finding was corroborated by the recent survey of all RC soldiers in Idaho (Viner et al., 1987). It follows that measures to reduce time waste could contribute significantly as solutions to lack of learning/performance motivation.

Problem: Lack of Time for Training

Need 4: Soldiers and units need to spend sufficient time in training activities.

Cause: Limits on Time for Training Assemblies

Congress has budgeted "hard" money for only 39 training assembly days (38 days for the USAR) per year. (As described earlier, other variable budgets can allow the actual number of assembly days to be somewhere in the fifties or above. Even if funding were available for unlimited training assemblies, the civilian schedules of many part-time soldiers often do not coincide with one another and thus make more group training time difficult to schedule. The dilemma for the RC is how to train to maximal readiness in much less the training assembly time available in the AC (Skipper, 1984).

Solutions for Limits on Time for Training Assemblies

Expand the use of the KPUP concept. As already mentioned under the topic of making training more relevant and realistic, the US Army Training Board (1987) recommended an expanded emphasis on the KPUP concept. This is an attractive option because funding for such training would come from sources beyond those allocated for 38 (39) days of training assemblies. The relevance of the KPUP concept to the problem of time shortage is pointed out in a study of longer RC training programs conducted by the Office of the Assistant Secretary of Defense, Reserve Affairs (1986):

> The greatest potential for increasing training time and overall training readiness for the remainder of the Reserve component [other than the Air Reserve Forces] still lies in the continued, innovative use and expansion of individual training programs which accommodate participation based upon availability. The Army National

Guard's Key Personnel Upgrade Program is a prime example. It provides Guardsmen with the opportunity to train in their skill with an Active Army unit for periods of 2 weeks and more. (p. V-3)

Programs such as these are ideally suited to the Reserve component, since they take maximum advantage of individual availability to receive additional training which is both beneficial and professionally rewarding. (p. III-4)

Among respondents who were employed or attending school, 55 percent characterized themselves as able to periodically take advantage of individual training opportunities. This percentage increases with grade among officers to a high of 90 percent and among enlisted personnel to a high of almost 70 percent. (p. IV-8)

Cause: Excessive Training Requirements

The US Army Training Board (1987) examined the training load placed upon the RC and aptly described its overwhelming nature:

An examination of the total training requirement placed on RC units versus the training environment within which they are to be met, suggests strongly that this equation is out of balance. In simple terms this means that the total training requirement, as it now exists, exceed RC units' capacity to execute. . . . A review of 100 studies and reports conducted over the last 10 years reveals that it is the most often cited finding. (p. 20)

The Army has placed, with few modifications, the total level of training load expected of AC units on RC units and has suggested in a variety of ways that they should be able to absorb it. [If this were a reasonable expectation, it would be an indictment against the Active Army for not attempting to accomplish more with the relatively abundant time available in the AC to train soldiers.] RC commanders have responded to this challenge by attempting to do some of everything and find themselves forced into a position in which the real and implied expectations of the Army are beyond the reach of the time and resources available. In this situation, units stretch beyond their elastic limit and are forced to dilute their efforts over too wide a spectrum of requirements. The inevitable result of this process is that it severely limits the probability of sustaining excellence in any one or group of tasks. (pp.23-24)

Solutions for Excessive Training Requirements

The US Army Training Board reiterated the following recommendation in its recent report on RC training:

> To achieve the necessary level of proficiency, the number of skills and tasks must be vigorously scrubbed, reducing them to the absolute minimum so that training can focus on truly essential tasks. (TRADOC, Army Training Study Group, 1978, quoted in US Army Training Board, 1987, p. 3)

In the same report, the ATB translated the above recommendation into specific actions to reduce training requirements:

> Reviewing all ARTEP's and carefully selecting approximately 50 percent of the collective tasks. . . .
>
> Reviewing DA mandatory training requirements with regard to frequency and number of requirements for RC units.
>
> Reviewing the common skills manual to reduce requirements to approximately 70 percent for RC soldiers.
>
> Reviewing soldier's manuals to reduce requirements to approximately 60 percent for RC soldiers.
>
> Reconfiguring RC POI's for reclassification MOSQ, NCOES, and other development courses with the objectives of reducing the length and content of the courses as well as constructing them to meet the time increments available to RC soldiers. . . . Scrubbing each course to eliminate peacetime AC oriented redundant and non-absolute essential tasks. (p. 25)

Another important aspect of the effort to reduce the training load to a level which can be accommodated by the time available is the coordination, consolidation and clarification of expectations from the various sources of guidance. The US Army Training Board (1987) found that:

> The average RC unit receives guidance from more than 3 headquarters and almost one-fifth (18.7 percent) receive guidance from 5 or more headquarters. This guidance is not uniform, is frequently inconsistent, and is often contradictory. (p. 34)

The ATB recommends strict guidelines for bringing this condition under control. In addition to the clarity this would bring, it would reduce the number of expectations many training managers are struggling to meet.

Cause: Administrative or Nontraining Requirements

The encroachment upon training time available due to nontraining, administrative requirements is frequently noted as a problem ubiquitously throughout the literature (e.g., Comptroller General of the United States, 1975; Skipper, 1984; US Army Training Board, 1987; and Viner et al., 1987).

Solutions for Administrative or Nontraining Requirements

Skipper (1984) recommended streamlining inspection procedures. The US Army Training Board (1987) recommended limiting the total number of annual inspections to which a unit is subjected. Other suggestions made by the ATB are to eliminate redundant and unsupported administrative requirements, simplify procedures and reports, and develop an RC oriented administrative automation architecture.

The survey conducted by Viner et al. (1987) showed that RC soldiers felt that excessive paperwork was the third greatest deterrent (out of seventeen choices) to unit readiness. (Not enough training time and lack of communication were the first two.)

Problem: Needed Resources Not On Hand

Need 5: The right training resources need to be on hand for any given training session. This includes the right equipment, hardware, software, training devices, constellation of soldiers, training facilities (ranges, buildings, etc.), and training environment (e.g., space, terrain, real work opportunities).

Cause: Dispersion

While overall enrollment numbers may be sufficient, getting those enrolled trainees to the right place at the right time for training is more than a minor detail in the RC. The difficulties of taking necessary training resources to the soldiers is the flip side of the same problem. "Reassignment inflexibility" refers to the fixed, home-bound characteristic of part-time soldiers. Reassignment inflexibility creates a mandatory condition of regular drills being conducted in numerous, geographically disperse, small units.

Unlike soldiers in the AC, soldiers in the RC are free to change residence or remain stationary as they please. While changes in residence create problems with turnover, the fact that most RC soldiers have permanent civilian jobs and

residences is an even more endemic and pervasive challenge. Because RC soldiers are part-timers whose primary tie is to their civilian employment, the Army is not free to group, locate or transfer them as may be needed. This means units are staffed and located mostly by the arbitrary dictum of geographical convenience rather than by any rational design.

RC units cannot be permanently relocated in tact, nor can they be restaffed or reinforced from outside the locale to which they are bound. They can be reorganized with new missions only with the greatest of difficulty, since soldiers in reorganized units must all be retrained in new military occupations--a cataclysmic state of transition which lasts for several years. RC units cannot be easily combined for strength, nor juxtaposed for support, nor permanently moved to centers where training facilities, support staff, or workload are more appropriate to their missions (Srull et al., 1985). Neither do such units have the benefit of nearby headquarter units.

> At unit (battalion/separate company and detachment) level the average distance to its headquarters is 105.6 miles, and it takes almost 3 hours to get there. Comparable units in the active force through brigade and frequently division level are within walking distance. At battalion level the average unit is dispersed over a 150-mile radius and some extend to over 300. Their AC counterparts are typically clustered within a mile or less of each other. (US Army Training Board, 1987, pp. 11-12)

Soldiers lost from geographically fixed RC units cannot be easily replaced (except in isolated cases) by transferrees who have been trained in the skills of the vacated positions. They can only be replaced through recruiting and training local personnel. Because of civilian ties, it is difficult for RC soldiers to be away from home to receive institutional training. This makes training especially difficult to obtain for new recruits, soldiers changing their military occupations, and soldiers upgrading their skill levels within their military occupations. Thus, units have difficulty keeping positions filled with qualified personnel, first, because reassignment inflexibility prevents mandatory transfer of adequate numbers of replacements from outside the locale, and second, because reassignment inflexibility often makes it difficult for local replacements to leave their jobs and families to attend the military schools which would qualify them for their new positions--the proverbial rock and a hard place.

The dispersion of RC units makes it difficult to get soldiers to a site where optimal training can take place. Transportation remedies necessitate tradeoffs in terms of time available to engage soldiers in training activities. Requiring

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soldiers to use their own time, vehicles, and fuel to travel
inconvenient distances to better training facilities for
regular drills could cause a reduction in strength.

> On the average, RC units travel 9.2 miles to get to a
> motor pool, primarily to access wheeled vehicles. To get
> to their major equipment at Mobilization and Training
> Equipment Sites/Equipment Concentration Sites (MATES/ECS)
> they travel 128.5 miles. In order to reach a collective
> training site they travel 40.1 miles to the nearest Local
> Training Area (LTA) or 154.2 miles to the nearest Major
> Training Area (MTA). To go to a rifle range, RC units
> travel 65.7 miles (only 20 percent have usable local small
> caliber ranges) and if an RC unit wishes to draw devices
> for training, it travels 149.2 miles to get them. These
> are all average one-way distances. (US Army Training
> Board, 1987, p. 12)

Not only does this dispersion cause loss of overall time
when transporting soldiers, but because of the brevity of
regular drills, session duration is also adversely affected.
That is, once travel time is subtracted from the typical MUTA-4
there is even less time within that drill to complete a
meaningful segment of activities and objectives. Confusion,
frustration, and apathy can result from such incomplete and
disjointed training sessions.

Making the optimum in training resources available within
each of multitudinous small units in distant locations would
require untenable tradeoffs in budgetary resources. Even if
there were no financial considerations in sending a full cadre
of instructors, equipment, and materials to every Hamlet, many
armories or reserve centers are in locations which do not
permit realistic training because of issues regarding space,
noise, civilian safety, and environmental protection.

Solutions for Geographical Dispersion

In connection with the problems of geographical
dispersion, the Office of the Secretary of Defense (1987)
discussed the need for more local training areas. The Army is
continuing to address this need through budgetary means and the
National Guard Bureau (NGB) is helping by identifying needs and
acquiring land.

The US Army Training Board (1987) calls for an improved RC
support system in terms of standardization of support,
evaluation and administration, increased emphasis on readiness
groups, a modernization effort to update equipment, a major
effort to reconfigure training courses and tailor them to RC

needs, and the development of a relationship between reserve force (RF) schools and the active force training base.

Heymont and Muckerman (1980) point out the need for "central coordination to assist RC units, early deploying or otherwise, in utilizing the resources of all elements of the Army" (p. 3-1). The VISTA 1999 Task Force (1982) urged the implementation of non-reimbursable, organic air transportation to special training facilities.

Under an earlier section of this report suggestions were made for improving processes and standards for SOJT. Doing so would help to compensate for the difficulty part-time soldiers have leaving home and work to attend schools where training resources are abundant. This would have to entail more active pursuit of mission-related, hands-on opportunities to develop and practice MOS skills.

Advanced training technology is perhaps the most viable solution to the problem of dispersion. Various media have been suggested: VCR tapes for private study and asynchronous computer conferencing (Viner et al., 1987), telecommunications (Rice et al., 1986, and US Army Training Board, 1987), computer-assisted/managed instruction (Rice et al., 1986; Turley, 1986; and Viner et al., 1987), interactive videodisc systems (Rice et al., 1986), and simulation devices (Office of the Secretary of Defense, 1987; Rice et al., 1986; US Army Training Board, 1987; VISTA 1999 Task Force, 1982).

CONCLUSIONS

The RC faces training challenges which are quite distinct from the training environment of the AC. The most prominent challenges are severely limited time for training, the geographical dispersion of units, and the reassignment inflexibility of part-time soldiers. These difficulties interact to effect most problems encountered within the RC training environment.

Five categories of training problems in the RC were identified from the literature. These were: (a) lack of soldier availability, (b) lack of prerequisite aptitudes and skills, (c) lack of learning motivation, (d) lack of time to conduct training, and (e) lack of training resources available at local unit levels.

Factors contributing to a lack of soldier availability include difficulty in attracting and retaining high quality recruits. Solutions which address these problems are: (a) Conduct and apply research on enlistment motivation, (b) recombine existing weak units to make stronger ones, (c) give

more accurate expectations to candidate enlistees, (d) improve enlistment standards, (e) increase soldier satisfaction, (f) utilize training time more efficiently, (g) make training more interesting and meaningful, and (h) conduct and apply research on retention/attrition.

Factors contributing to a lack of prerequisite aptitudes and skills include (a) premature large unit training, (b) personnel turbulence, (c) attrition, and (d) inadequate individual skill training. Solutions which address these problems are: (a) Focus more on training at the individual and smaller unit level, (b) make training more interesting and meaningful, (c) change present policies which force trained soldiers out, (d) create a separate program of initial training for the RC, (e) make flexible and abundant use of high-tech training media, and (f) implement a flexible MOS reclassification strategy.

Factors contributing to a lack of learning motivation on the part of soldiers include (a) lack of relevance and realism in training, (b) lack of adequate feedback to individual soldiers on their training progress, and (c) soldier dissatisfaction. Solutions proposed in the literature for these problems include: (a) Improve processes and standards for SOJT; (b) provide additional training on MILES operation; (c) make available more practice battle fields similar to the National Training Center (NTC); (d) maximize the use of overseas deployment for training; (e) expand the use of combined-force training; (f) maximize the use of the KPUP concept; (g) promote year-around interface between ARNG and USAR units; (h) maximize the use of field (vs. classroom) training environments; (i) maximize the use of advanced training technology; (j) revise the Skill Qualification Test (SQT) to fit RC needs, administer it regularly, and link SQT performance to rewards and promotions; (k) reduce time waste; and (l) recruit soldiers with high self-esteem and internal locus of control.

Factors contributing to a lack of time for training include: (a) budgetary constraints, (b) excessive training requirements, (c) conflicting guidance coming from complex chains of command, and (d) numerous nontraining requirements. Suggestions for remedying these difficulties include: (a) Expand the use of the KPUP concept, (b) prioritize individual and unit skills/tasks and reduce the number required, (c) unify training guidance, and (d) streamline inspection procedures and limit the number of inspections units undergo annually.

The chief factor contributing to needed resources not being on hand when needed for training is the geographical dispersion of units and soldiers. Solutions proposed to help overcome this difficulty include: (a) more local training

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areas, (b) an improved RC support system, (c) central coordination of resource utilization, (d) non-reimbursable, organic air transportation to special training facilities, improved processes and standards for SOJT, and very importantly, (e) advanced training technology.

Further research would be helpful with regard to virtually any of the problems or solutions explored in this review. The literature is conspicuously dominated by opinion papers rather than empirical data. Very little feedback is reported from the perspective of NCOs or enlisted soldiers.

Much of the literature enthusiastically calls for greater effort in developing and implementing advanced training technology. Especially needed are systems which can be widely distributed to numerous, small, dispersed units.

Regarding the severe time limitations for RC training, the literature does not seem to favor actual increases in the time allotment. Rather, the literature leans much more favorably toward optimizing the efficient and effective use of the time already allocated.

The literature is not lacking in suggestions to improve training and readiness in the RC. While there are many interwoven problems and difficulties, numerous varieties of ideas are proposed for meeting the challenges. The reasons for lack of implementation of solutions is not, therefore, a paucity of creative, cogent suggestions. Rather, the issues which tend to prevent the system from achieving its maximum efficiency appear to be budgetary, political, and traditional. Developing, testing, and implementing new programs or policies is complicated in a complex system such as that which administers the RC. Hopefully, solid research will be able to provide persuasive support for the implementation of many of the solutions presented in this review.

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